

Notes on Butterflies (Rhopalocera) in Crete in June, 1969

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The island of Crete, 160 miles long but only 36 miles from north to south at its widest point, consists mainly of a chain of limestone mountains, several of whose summits exceed 2,000 metres; the highest, Ida (otherwise called Psiloritis) reaches 2,456 metres. On the north there is a narrow coastal strip; on the south the mountains generally fall almost sheer into the sea except in the centre, where the substantial Messara plain is connected with the north coast by relatively low saddles in the mountain range. Rain hardly falls between the middle of May and October and, though the winter's snow lies long on the mountains and provides plenty of water, this disappears into the limestone and can only be recovered for cultivation purposes by pumps and windmills or from occasional springs. Most of the island is therefore very arid in summer. Vegetation on the hillsides is limited to a maquis of spiny, drought-resisting plants; rivers and water courses are almost dry by early June; and, except in a few favoured spots, there are few trees larger than the ubiquitous olive and carob. The geologists tell us that Crete has been an island for a very long time, and it is doubtless this combination of early isolation with a difficult climate which explains both the poverty of the lepidoptera and the presence of a number of endemic species and sub-species.

A basic work on the lepidoptera of Crete was published by the Austrian entomologist Professor H. Rebel in 1916. This brought together the results of his own collecting in eastern Crete from May to July 1904, records by half-a-dozen earlier writers (some of them British), and an account of much unpublished material in Austrian and Hungarian museums. It includes a critical comparison of the Cretan fauna with those of the Balkans and of Asia Minor, and a discussion of its probable origins. Other Continental writers, notably Hans Reisser and Edvard Troniček, have made further contributions since then; but, apart from passing references, there have been no recent accounts by British collectors.

My wife and I with two friends, spent the first fortnight of June 1969 in Crete, staying for a week in Iraklion, in the centre of the north coast, and later in Aghios Nicolaos, a small port and holiday resort some 60 kilometres further east. We did not explore the western half of the island, and our expeditions south of the watershed were limited to a visit to the archæological sites at Phaistos and Aghia Triada in the centre and a few hours in and around Ierapetra in the east. I concentrated upon the butterflies and did not attempt any serious night collecting. The other members of the party were not entomologists, so we used our hired Volkswagen for the mixed purposes of finding suitable collecting grounds visiting the many archæological sites, and taking us to bathe in the sea—an activity which proved irresistible in temperatures which exceeded 90°F. every day, often with a hot south wind blowing from Africa.

We found the main roads, and some of the secondary ones, much better than those we had used in previous years in mainland Greece. But there are still few of them, so that most of the mountainous inland and much of the south coast are still difficult or impossible of access by

car. The available maps are unreliable, and are embarrassingly silent about the altitude of any places except the highest mountain tops. Each nome (county) does, it is true, post large maps of its road system at points of entry to it; but we were amused to note that the road classifications used differed greatly in the three adjacent nomes which we visited.

Our attempt to visit the higher slopes of Mount Ida in search of the endemic Blue, *Aricia psylorita* Freyer, was frustrated by these uncertainties. The recently published official map of Crete which was handed to us on arrival shows a motorable road from the village of Anogia, 34 kms. from Iraklion and about 750m. above sea-level, on for a further 16 kms. to the high plain of the Nidha and the Idaean Cave, where a "tourist pavilion" is marked, at about 1,400m. The 1968 Blue Guide also stated that this point could now be reached by car. From it we thought that it would be no great climb to the reputed haunts of *A. psylorita* below the remaining snow-drifts. But when we drove up to Anogia we found that this road beyond it was a plan for the future, not a present reality. It might be possible to get a Land Rover up the existing first-class mule-track; but after a short distance we had proved it quite impassable for our Volkswagen. I did myself walk on for perhaps three miles up the zig-zagging track to a bare plateau at the top of the steep escarpment, catching on the way a fresh male of *Pseudochazara amalthea* Friv., which is essentially a mountain species in Crete. Besides striking black and white markings, it has a very distinctive wing shape; and I was able confidently to ascribe to it the butterfly represented on a Minoan brooch, dating from about 1400 B.C., which we saw later in the museum at Iraklion. On the plateau itself I explored a shallow gully where the vegetation looked thicker and less parched than elsewhere, though there was no actual water. This yielded plenty of *Polyommatus icarus* Rott. and a few *Aricia agestis* Schiff.; they seemed to be worn survivors of the first broods, which had disappeared altogether lower down, where both species were fresh and presumably showing their second broods. A fine Crambus, *C. cassentiellus* Zell., which looks very like our own *C. chrysonuchellus* Scop. was also common in this gully. But I could find no trace of *A. psylorita*, and the snow slopes were still so far away that I decided to abandon further attempts to find it and to rejoin the rest of the party, who had stayed around the foot of the escarpment. It was only after my return to England that my attention was drawn to E. Troniček's account of his experiences with *A. psylorita* in 1936. I then realised that, if I had persevered for a further couple of miles along the Nidha track, I should probably have found it commonly, without much further climbing, around some springs well short of the Nidha high plain itself, though that is its headquarters. In retrospect, this is a failure which rather rankles.

In the afternoon and on another visit two days later, I consoled myself with some useful collecting in the ravine beside the road just before Anogia village. Besides many *Gonepteryx cleopatra* L., a fine *Lampides boeticus* L., and many common species, it yielded a fresh male *Pieris ergane* Geyer-Hubner, of which Rebel records only one specimen from Crete. It is clearly a rare species; I could find no more, either at Anogia or elsewhere.

The high plain of Lasithi, further to the east, is much more accessible

than the Nidha, as there is now a good road all the way up from the Iraklion side and another, not yet completely improved, but passable, from Aghios Nicolaos. This circular plain, about six miles across at a height of perhaps 1,200m., is completely surrounded by a ring of bare limestone peaks, the drainage from which accumulates below the surface of the plain. The water is pumped up for irrigation by some thousands of small windmills, whose sails, turning in the mountain breeze, give a fantastic touch to the landscape. From the village of Psychro in the plain, we climbed several hundred metres to the Dicte cave, which is one of several claimants for the honour of being the birthplace of Zeus. We thought it a singularly repulsive cavern, and the steep slopes around it were too arid for most butterflies, though I did miss, in the very mouth of the cave, a fine *Polygonia egea* Cramer, which we saw elsewhere only rarely and at lower levels. But when we descended again to the outskirts of Psychro I found, flying beside a damp path, a few specimens of the lovely *Zerynthia cerisyi cretica* Rebel, which was one of my principal objectives in Crete. They were still in good condition there, though at lower levels the flight begins in March and must have been long over. Unfortunately *A. psylorita* probably does not exist in the Lasithi mountains, which are rather lower than Mount Ida and were no longer holding snow when we were there. Rebel records that he could find no trace of it, and neither did I.

Below the Lasithi plain the higher reaches of the road from Aghios Nicolaos climb through several relatively well-watered and well-timbered villages, among which we spent a good day on 14th June. The highest of them all, Potami, provided some especially good collecting. It was the only place where we saw *Lycaenopsis argiolus* L., in a large and brilliant race with the females very heavily marked with black. *Lampides boeticus* L. was commoner here than elsewhere, and I saw but missed a *Z. cerisyi* which may have strayed down from the high plain. Between the villages the road was being reconstructed, and the newly rolled surface attracted dozens of *Hipparchia semele cretica* Rebel of both sexes. So intent were they that some allowed themselves to be crushed by the slow-moving roller. I thought at first that the water used to consolidate the surface might be the attraction, but we noticed on our second visit that they were still frequenting stretches of the road which had been rolled four days earlier and seemed completely dry. Possibly the butterflies were sampling some mineral deposit. There were a few *Pararge megera* L. and *Carcharodus alceae* Esp. among them, but other species which were flying nearby, such as *G. cleopatra*, *Maniola jurtina*, *Polyommatus icarus*, seemed not to be attracted. Whatever may have been the case with the butterflies, we ourselves certainly felt the need for moisture. Each of the villages contained a hospitable "kafeneion"—the Cretan equivalent of the village pub; and my companions spent much of the time improving their knowledge of the Greek language in these while I was studying the fauna.

Though the best ground was certainly in the mountains, butterflies were abundant in the foot-hills wherever there was shade or the remnants of water. As in mainland Greece, uncultivated and ungrazed ground around the archæological sites was often productive; a water-course just beyond the palace at Knossos, for instance, was tenanted by large numbers of *Parargē egeria* L., *Maniola jurtina hispulla* Esp., *Iphic-*

lides podalirius L., *Carcharodus alceae* Esp., *Thymelicus actaeon* Rott. The excavated site at Vathypetro, which is delightfully surrounded by vineyards and flowery hillsides, was also very rich in common species, *Vanessa cardui* L. and *Pontia daplidice* L. being especially prominent. Even the dessicated maquis had its large quota of the endemic *Coenonympha thyrsis* Freyer, whose total population in Crete must be astronomical, *P. icarus*, and less commonly, *H. semele cretica*. The least productive area seemed to be the sea-coast, where butterflies were nowhere common; I did, however, find my only specimen of *Hyponephele lupinus* Costa on a bare slope above the sea near Mallia, and rather similar ground west of Iraklion was tenanted by a large colony of an attractive Burnet, *Zygaena punctum dystrepa* F. de W. A promising area of dried-up salt-marsh which we explored near Ierapetra contained no butterflies at all, apart from a few of the ubiquitous *C. thyrsis*.

Despite the abundance of individuals, the range of species of butterflies in Crete is very limited. Rebel listed in 1916 40 species, but these included three—*Chilades trochilus* Freyer, *Parnara zelleri* Lederer and *Pyrgus malvae* L.—of which the very early single records have never been repeated and were probably erroneous. In 1928 Warnecke added five species (*Melanargia larissa* H-S., *Brintesia circe* F., *Chazara briseis* L., *Strymon acaciae abdominalis* Gebh., *Cupido minimus* Fuessly) from a collection which had been made in the Aegean area; but there is doubt whether the specimens concerned were really caught in Crete, and these records have never been confirmed. Troniček (1949) recorded as reliably determined, a male of *Pyrgus armoricanus* Oberthur, taken by himself near Anogia on 7th June 1936. Beuret (1955) discussed two specimens of the little Blue, *Zizeeria karsandra* Moore, taken in 1909 in not clearly identifiable localities in Crete. Reisser (1958) gave records of *Charaxes jasius* L. from Vukolies and Chania and, doubtfully, of *Limenitis rivularis* Stichel (*reducta* Stdgr.) from East Crete; he also points out that Rebel overlooked Lederer's very early record of *Spialia phlomidis* in Crete, though no one has since seen it there. Finally, Mr John Coutsis of Athens tells me (*in lit.*) that he took an undoubted male of *Pieris mannii* Mayer in Crete recently in September. It seems, therefore, that the number of species of Rhopalocera reliably recorded from Crete within the present century is still only about 40, though more than 80 have been added to the moths since 1916. These now number about 370 species. But large parts of the island, particularly the high Leukos Ori mountains in the west and much of the south coast, have hardly been worked at all; there may well be discoveries still to make.

We ourselves saw 27 species, which was not bad for a single fortnight by no means wholly directed to entomology. It may be compared with 31 species found by Troniček and Stepanek from 22nd May to 21st June 1936, and the same number by Rebel over a rather longer period in 1904. Of those which we saw, *Coenonympha thyrsis* Freyer can claim to be a purely Cretan species, though some authorities attach it to *C. pamphilus* L., which does not itself occur in Crete, despite the enormous differences between them in both appearance and habits. Three others, *Zerynthia cerisyi cretica* Rebel, *Gonepteryx cleopatra insularis* Verity, *Hipparchia semele cretica* Rebel, can certainly be accepted as endemic sub-species. *Thymelicus actaeon* Rott. (our Lulworth Skipper) which is locally common in Crete, is larger and more brightly marked than its cousins

from both mainland Greece and Cyprus; its status may repay further investigation, as may also the fine race of *Lycaenopsis argiolus* L. Of *Pseudochazara amalthea* Friv., *Hyponephele lupinus* Costa and *Pieris ergane* G-H. I only obtained single specimens, but these all differ slightly from the usual forms in mainland Greece. The Cretan *Maniola jurtina* L. are magnificent creatures, especially the females; they clearly belong broadly to the *hispulla* Hb. group of sub-species, but differ somewhat both in colour and markings from typical *hispulla*. Detailed notes and localities for these and other species which we saw are attached.

The Heterocera noticed were mostly diurnal. *Macroglossa stellatarum* L. was seen high up on the Anogia plateau, and the same locality produced *Plusia gamma* L., *Crambus cassentiellus* Zell., and a very large *Procris* whose identity is still to be determined. We found colonies of an attractive little Burnet, *Zygaena punctum dystrepa* F. de W. by the sea near Gazi, in the Anogia gorge, and above Psychro; this is an altitude range of about 1,300m., yet all were about equally fresh. A striking Syntomid, *Dysauxes punctata* F. was caught at Phaistos, along with the migratory Noctuid *Tarache lucida* Hufn. A minute example of *Rhodometra sacraria* L. was taken in a salt marsh at Ierapetra, and worn examples of *Heliothis peltigera* Schiff were seen in several places. Most of the very small attendance at the lights round our hotel at Aghios Nicolaos also consisted of migratory species, *Laphygma exigua* Hb. and *Nomophila noctuella* Schiff. A brilliant form of our British *Scopula imitaria* Hb. was common both by day and by night. But the yield of such casual moth collecting as we did was disappointingly small. Probably it was too late in the season for most of the indigenous Heterocera, at least at sea-level.

RHOPALOCERA SEEN IN CRETE, 2nd/15th JUNE 1969

- Carcharodus alceae* Esp. Widespread, but only singly. Knossos, Anogia, Vathypetro, Psychro.
- Thymelicus actaeon* Rott. Locally common in flowery places. Larger and more brightly coloured on both surfaces than specimens from the Greek mainland, Sicily or Cyprus; perhaps an endemic sub-species.
- Papilio machaon* L. Not common; always close to plants of fennel, and mostly worn.
- Iphiclides podalirius* L. Widespread, especially near villages where there were fruit trees; in some places very common, feeding at flowers of scabious. Mostly fresh, presumably of 2nd generation.
- Zerynthia cerisyi cretica* Rebel. Psychro, c. 1,200m., 10th June, one male, three females, all in fair condition, taken and another missed; flying along a wet ditch among fruit trees. Potami, c. 900m., 14th June, one fresh specimen seen.
- Pieris brassicae* L. Few seen, mostly high up and worn. Probably between broods.
- P. rapae* L. Abundant, especially at low levels; females mostly worn, males fresh, Search was made for *P. mannii* Mayer, but none were seen.
- P. ergane* G-H. Anogia gorge, c. 800m., 7th June, one fresh male, no more seen, despite considerable search. This appears to be only the second record for Crete; Rebel records a single worn male in

the Lasithi mountains, 4th July 1904.

- Pontia daplidice* L. Widespread and generally fairly common; all apparently of the 2nd generation.
- Euchloe ausonia* Hb. Several seen on the Anogia plateau, c. 1,000m., 5th June.
- Colias crocea* Fourc. Generally abundant, but only one *f. helice* Hb. seen, at Knossos.
- Gonepteryx cleopatra insularis* Verity. Scarce at first, males then becoming common generally, females still few on 15th June; most numerous at moderate altitudes. My specimens are uniformly smaller than those from mainland Greece, and the males less heavily marked with orange, though more so than in ssp. *taurica* Stdgr. from Cyprus.
- Vanessa cardui* L. Generally abundant up to 900m., especially in central Crete; less common in the east.
- V. atalanta* L. Only three seen, at Phaistos, Knossos, Gournia.
- Polygonia egea* Cramer. Iraklion, Archarnes, Potami, Dicte cave above Psychro, singly.
- Pararge aegeria* L. Locally common among trees. The difference in size between the sexes seems to be more pronounced than in the mainland form.
- P. megera lyssa* Hb. Widespread, but usually singly; mostly worn.
- Hipparchia semele cretica* Rebel. Widespread up to 900m., becoming very common. Apart from the attraction to a newly-rolled road, already discussed, we noted its habit of settling on the shady side of tree trunks. Each insect selected its own trunk, which it defended vigorously against intruders, whether of its own or human kind, as we discovered when we settled for lunch beneath an occupied tree. It is a brilliant and large race (up to 72mm in both sexes), outwardly rather resembling *H. aristaeus siciliana* Obth.; but there seems no doubt that structurally it belongs to *H. semele* L.
- Pseudochazara amalthea* Friv. Anogia escarpment, c. 1,000m., 5th June, one fresh male. This resembles the Greek mainland ssp. *amalthea*, but the white markings are slightly more extensive, and there is a clear white spot outside the apical ring on the forewings.
- Maniola jurtina* L. The race seems to be closer to *hispulla* Esp. than to *fortunata* Alpheraky, but is distinguishable from either. In the female, the usual colour of the underside hindwings is dove-grey, with a violet tinge, but in some examples the marginal band is bright biscuit colour. Generally abundant up to 900m.
- Hyponephele lupinus* Costa Above the beach west of Mallia, 15th June, one female, fresh but damaged by a lizard. Found on extremely dessicated ground, accompanied only by a few *C. thyrsis* and *M. jurtina*.
- Coenonympha thyrsis* Freyer. Found at all levels, generally abundant on dry, stony ground; not a colony insect like *C. pamphilus*. It flies jerkily in the partial shade of tall plants, but seems little attracted to flowers. It is probably short lived, as we saw hardly any worn examples among hundreds of fresh ones. There is some variation in the amount of spotting in the hindwings upperside. otherwise constant in markings but rather variable in size (30mm in small males to 38mm in large females).

- Lycaena phloeas eleus* L. Widespread at moderate altitudes, but usually singly. A brilliant race, with well-developed tails to the hindwings.
- Lampides boeticus* L. Anogia gorge; Acharnes; Potami. About a dozen seen, mostly worn, flying round broom bushes and settling on flowers of scabious.
- Acriia agestis calida* Bell. Anogia plateau, 5th June, Psychro, 10th June, a few worn; Potami; 14th June, fresh males.
- Polyommatus icarus* Rott. Generally abundant; worn at high levels, fresh lower down. All small or very small; a few females have traces of bluish suffusion upperside.
- Lycaenopsis argiolus* L. Potami, c. 900m., 14th June, males worn, some females still fresh. A fine form; females measure up to 40 mm., and have heavy black borders on the forewings and a marginal row of pale blue spots on the hindwings. On the underside, the spots are greatly reduced in number and size. This race needs more investigation: I have seen nothing quite like it elsewhere.

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Folly Hill, Birtley Green, Bramley, Surrey. September 1969.

Wessex Notes, 1969

By H. SYMES

During the past few years, so much has been said (and rightly) about the scarcity of butterflies that it is a welcome change to record that 1969 has been a good year for them. In 1968 I did not see one hibernated Vanessid in my garden, but during the fine weather at Easter this year, I saw a Peacock (*Nymphalis io* L.) on 6th and 7th April, and ten days later, a Small Tortoiseshell (*Aglais urticae* L.) on Grape hyacinth (Muscari). May was a cold month, but the appearance of a Painted Lady (*Vanessa cardui* L.) on 28th suggested that it was going to be a good year for this immigrant. Meantime, on 27th, an extreme form of *Biston betularia* L. var. *carbonaria* had emerged from pupa. I had found the larva on sycamore (Ent. Rec. 81: 60).

On 5th June, Mr S. C. S. Brown and I met Brigadier Warry at his favourite locality near Wootton Glanville. *Euphydryas aurinia* Rott. (Marsh Fritillary) and *Argynnis selene* Schiff. (Small Pearl Bordered) were scarce, but fresh and only just beginning to emerge; the most